

The usage of the profiles defined for a particular consumer is continuously monitored. Since the profiles themselves are stored locally on the set-top box, and the user can edit the profiles locally, the exact content of the profiles are not known until selected to be used by the user. There are also volatile parts of the profile such as current channel selected. The system therefore needs to do some statistical measurements on the usage of the categories within the profiles, to be able to make a forecast of the hit rate when defining a campaign

#### SELECTION OF TARGET GROUP

In accordance with the invention, when a target group of households is to be selected for a campaign, the selection criterion may be composed of information from a plurality of sources comprising:

1. Generally available demographical data, e.g. number of household members and their age. Some of these data can be obtained at the time of subscription; others retrieved from public sources;
2. Proprietary knowledge about the targeted households;
3. Former campaigns results;
4. Consumer profiles;
5. Television channel currently being watched.

Data from the first three sources does not change substantially between the campaign definition and expiration of a time slot and is therefore called non-volatile data. Data from the latter sources, however, does indeed vary within the above time frame and is called volatile data. In fact, the latter data is dependent on the current viewer behaviour and may therefore change rapidly.

#### STATIC

In accordance with the invention, the allocation of time slots can in one embodiment be made statically at campaign set up time. The households and time slots are then allocated during campaign definition by using a selection criterion that is based on the non-volatile data described above.

## DYNAMIC

When the promotional messages of the present invention are to be sent to large populations with several millions of households, the static allocation strategy will have difficulties in coping with the fact that households are added and withdrawn from the subscriber list. If the target groups are selected several weeks in advance, new households will not be covered since they were not a part of the selection when the campaign was set up. Removed households will also affect the performance since there is a probability that households are removed from the selected group. A problem related to the removed households is the fact that some television receivers are not switched on during a particular time slot when a promotional message is dispatched. This will also affect the selected target group for a campaign. Moreover the above described static selection criterion does not take into account that the consumer/viewer may have e.g. selected a consumer profile or watch a particular television channel.

In accordance with the present invention, it is therefore preferred to use a dynamic allocation. By using a dynamic allocation the system describes the target households with a selection criterion that is not executed until the actual time slot is approaching or is due. The criterion can then easily cope with added households since all households matching the criterion will be targeted. One problem with this approach is that the system does not know at campaign set up time exactly how many households that will be targeted.

The process of determining what households should be presented with which promotional message at which time may according to the invention be defined by the following process:

The time slot or slots when a promotional message should be presented is selected. Each time slot may be of equal length. The targeted group of households is selected based on non-volatile consumer data e.g. demographical data. The data is retrieved either from public sources or from invariant/static parts of the consumer profile. The selection criterion within the group is set up and is based on the volatile consumer data e.g. categories of interest that the user has stated in the consumer

profile. The selection criterion is sent out to the head-end application gateway 4, which controls the group of households selected, together with a priority of that selection criterion. The priority may be set by a back-end control application 1 when the selection criterion is defined. For each household and time slot, the selection criterion is added to a priority queue of selection criteria. When the time slot is due, each selection criterion in the queue is tested, with the high priority ones first. When a criterion matches the consumer profile, the associated promotional message is selected to be displayed.

It is of course possible to make the selection centrally, based on the current consumer profile in use, assuming that the same profile is used for a certain time ahead. When the user changes the consumer profile, a new set of promotional messages can be downloaded. However, if the selection criterion is based on current broadcast channel in use, it can be assumed that often the switch is made in the order of minutes, causing a heavy load on the network and too slow response.

In accordance with the invention the following alternate process may be used:

As above the time slot or slots when a promotional message should be presented is selected, the targeted group of households is selected based on non-volatile consumer and the selection criterion within the group is set up and is based on the volatile consumer. Then, however, when the user logs on or changes consumer profile, a notification is sent to the scheduler application 2, 3, which calculates the promotional messages for a period of time ahead, and assuming that the consumer profile is the same. The promotional messages are sent down to the head-end application gateway 4, which forwards the message to the appropriate set-top boxes 6. When the user changes consumer profile, the promotional messages are recalculated, and the new set of messages is sent down to the head-end application gateway 4 for further distribution. The alternate process requires less memory, but will probably consume more bandwidth for the network in total, since a lot of data is wasted when the user changes profiles. The response requirements are also higher, since a lot of traffic is needed when a profile is changed.

Because of the above selection criteria, it is likely that some households will not be targeted for any promotional message during some time slots. This is not an